DOCTOR'S PERCEPTION OF EMR

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ABSTRACT

Information Technology is one of the key factors to improve quality of patient care. Hospital are using EMR to upgrade their healthcare services to international standard. EMR is a digital version of traditional paper based medical record for an individual.[1] EMR in OPDs make the process of patient record keeping easier, more accurate and comprehensive and more efficient[2]. Doctors usespecialized software, which allows them to enter information electronically immediately.[3]

A survey of doctor's perception about EMR was carried out in one of the tertiary care hospital. A study was carried out in form of questioners to know their view points and opinions about this technology[4]. The sample size was 92 consultants. After conducting survey, analysis was done based on their tech friendliness.

It was found that 36% consultants found very easy to adapt EMR technology, 39% consultants found easy, 20% found difficult and 5% found very difficult.

KEYWORDS: Electronic medical Record, Outpatient department, Tertiary care Hospital (TCH).

Aim:
To know the doctors' viewpoints and opinions about usage of Electronic Medical Record in Tertiary care Hospital, Pune.

Objectives:
1. To conduct a survey in the form of questioners of Electronic Medical Record.

2. To analyze doctors' perception about EMR.

3. To find that whether doctors are ready to accept this digital technology in day to day practice. .

4. To analys Doctor's perception about EMR & figure out how much Doctors are adaptable to technology and how EMR is useful in their day to day practice.

Limitations:
Study was done for a short duration, from May-Aug 2015 It was difficult to approach doctor s because of too much of patient flow in the hospital and less free time of consultants available for interview.

Introduction:
While the expertise of the medical practitioner's skill is vital to ensure quality treatment, it is also the use of medical technology and advancements that reap favorable results. IT is transforming the economy of the world.[5] After food, shelter and cloth, technology has become the ultimate need of human beings.

An electronic medical record (EMR) is a digital version of the traditional paper-based medical record for an individual. An EMR contains the medical and treatment history of the patients in one practice. From "Grip to Click", EMR maintain clinical records and data of all patients which is easily retrieve on single click. EMR reduces Brick and Mortar space which is used for storage of papers. EMR keeps privacy and security of data because it is not interconnected and each doctor has own separate login ID to access the software.

Physicians can use a desktop, laptop or electronic clipboard to navigate through patients charts and record notes.

A study was carried out with the help of a questionnaire to know their view points and opinions about this technology before implementation. The sample size was 92 consultants. After doing survey, analysis was done based on their tech friendliness.

Literature Review:
Electronic Medical Records (EMRs) can improve health care quality. EMRs can also make health care more convenient for providers and patients.

Electronic Medical Record is more beneficial than paper record because it allows providers to Track data over time, Identify patients who are due for preventive visits and screenings, Monitor how patients measure up to certain parameters, such as vaccinations and blood pressure readings and Improve overall quality of care in a practice.

The information stored in EMR is not easily shared with providers outside of a practice. A patient's record might even have to be printed out and delivered by mail to specialists and other members of the care team.[6]

Snapshot of Improved Health Care Quality and Convenience for Providers:
1. Quick access to patient records from inpatient and remote locations for more coordinated, efficient care.

2. Enhanced decision support, clinical alerts, reminders, and medical information.

3. Performance-improving tools, real-time quality reporting.

4. Legible, complete documentation that facilitates accurate coding and billing.

5. Interfaces with labs, registries, and other EHRs.

6. Safer, more reliable prescribing.[7]

Snapshot of Improved Health Care Quality and Convenience for Patients:
1. Reduced need to fill out the same forms at each office visit.

2. Reliable point-of-care information and reminders notifying providers of important health interventions.

3. Convenience of e-prescriptions electronically sent to pharmacy.

4. Patient portals with online interaction for providers.

5. Electronic referrals allowing easier access to follow-up care with specialists.[8]

EMRs Support Provider Decision Making[9]:
1. EMRs can help providers make efficient, effective decisions about patient care, through:

2. Improved aggregation, analysis, and communication of patient information

3. Clinical alerts and reminders

4. Support for diagnostic and the rapeutic decisions

5.   Built-in safeguards against potential adverse events Health Care

Methodology:
Study Setting: The study was conducted among various departments of Tertiary care Hospital.

1.   Study Period: The study was carried out from 7th May to 7th August 2015

2.   Study Design: Descriptive

      Sample size: 92 Consultants

3.   Study method: Observational, questionnaire and Discussion based

4.   Study Area: Various OPD"S for the survey and ENT & Laboratory & Ortho Department for implementation.

The study conducted started by doing survey among various consultants of TCH to know their tech friendly nature and their awareness of EMR so that training should be provided to them according to that.

Observation and Analysis:
How technology friendly isyou?

Table 1: Technology friendly

Category	Frequency	Percentage
Very much	32	35%
Comfortable	29	32%
Not comfortable	19	21%
Totally uncomfortable	5	5%
Neutral	7	7%
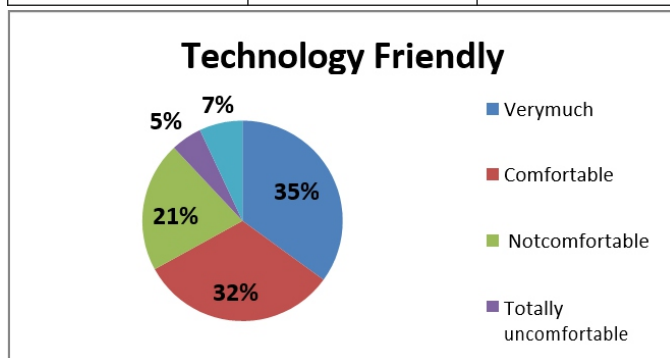
Fig 1: Technology Friendly

Tick from the following electronic items, the ones which you have use with easy.
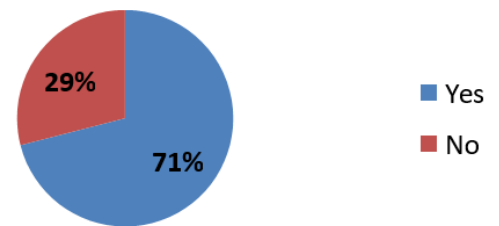
Table 2: Electronic items

Category	Frequency	Percentage
Smartphone	34	37%
Tablet/pad	23	26%
Computer	33	35%
Other(please specify)	2	2%
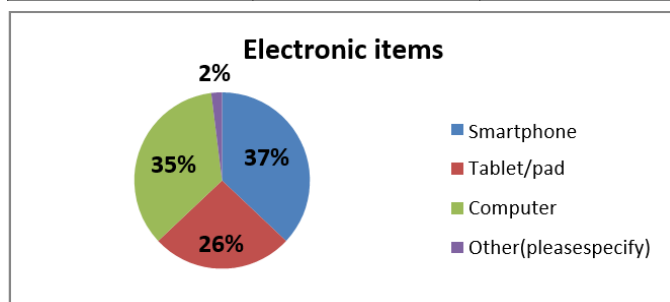
Fig 2: Electronic items

Are you familiar of EMR software?
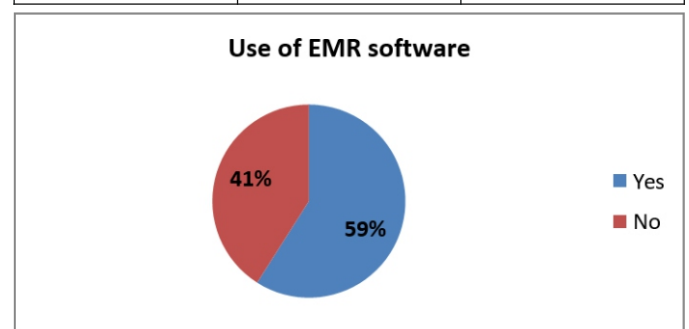
Table 3: Known to EMR software

Category	Frequency	Percentage
Yes	65	71%
No	26	29%

Fig 3: Known to EMR software

Have you ever used EMR software?

Table 4: Use of EMR software

Category	Frequency	Percentage
Yes	54	59%
No	38	41%

Fig 4: Use of EMR software

Do you think implementation of EMR in TCH will benefit the patients and save time?

**Table: 5 Implementation in TCH will benefit the patient and save time**

Category	Frequency	Percentage
Yes	59	64%
No	7	8%
Can"t say	26	28%
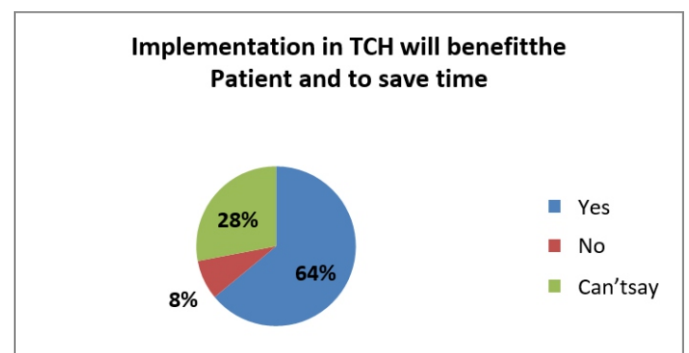
Fig 5: Implementation in TCH will benefit the patient and save time

Specify the problem you go through while using current method of patient documentation?

Table 6: Problem while using current method of patient documentation

Category	Frequency	Percentage
Excess of paper work	18	20%
Maintenance and storage of files and reports	22	24%
Time consuming	17	18%
Does not contain enough information about patient	11	12%
Difficult to retrieve data over a period of time	24	26%

Problem while using current method ofpatient documentation

- Excess of paperwork
- Maintenance andstorage of files and reports
- Time consuming
- Does not contain enough information aboutpatient
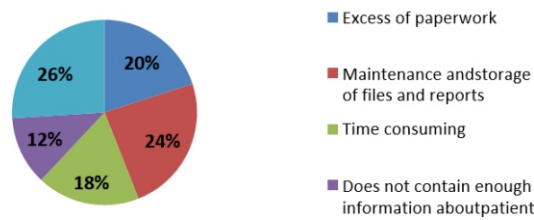
Fig 6: Problem while using current method of patient documentation

Select from the following, the advantage of EMR.

Table 7: Advantage of EMR
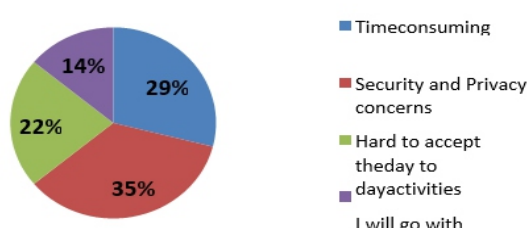
Category	Frequency	Percentage
Helps to track data over the time	23	25%
Cost saving	7	8%
Records accessible to many people at the same time	15	16%
Elimination of Medication errors	5	5%
Useful for storage and retrieval of data over a long period of time	21	23%
All of the above	21	23%

Advantages of using EMR

- Helps to track dataover the time
- Costsaving
- Records accessible to many people at the same time
- Elimination of Medication errors
- Useful for storage and retrieval of data overa long period oftime
- All of the above
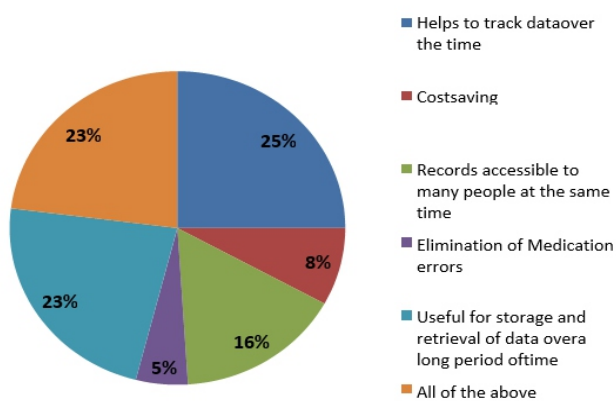
Fig 7: Advantage of EMR

Select from the given, the disadvantage of EMR.

Table 8: Disadvantage of EMR

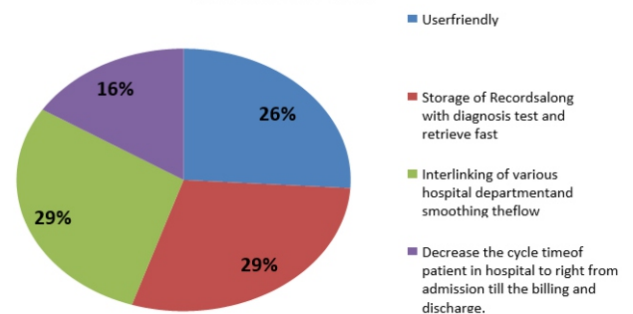| Category	Frequency	Percentage
Time consuming	27	29%
Security and Privacy concerns	32	35%
Hard to accept the day to day activities	20	22%
I will go with Traditional way	13	14%

Disadvantage of EMR

- Timeconsuming
- Security and Privacy concerns
- Hard to accept theday to dayactivities
- I will go with

Fig 8: Disadvantage of EMR

According to you what features should be there in EMR?

Table 9: Features in EMR

| Category	Frequency	Percentage
User friendly	24	26%
Storage of Records along with diagnosis test and retrieve fast	27	29%
Interlinking of various hospital department and smoothing the flow	26	29%
Decrease the cycle time of patient in hospital to right from admission till the billing and discharge.	15	16%

Features inEMR

- Userfriendly
- Storage of Recordsalong with diagnosis test and retrieve fast
- Interlinking of various hospital departmentand smoothing theflow
- Decrease the cycle timeof patient in hospital to right from admission till the billing and discharge.

Fig 9: Features in EMR

How much time do you think is required for training to be able to use EMR?

Table 10: Training require for EMR

Category	Frequency	Percentage
Not necessary, just an introduction is require	57	62%
A week	20	22%
A fortnight	3	3%
A month	12	13%

Training requirement

- Not necessary,just an introduction is require
- Afortnigh
- Amonth
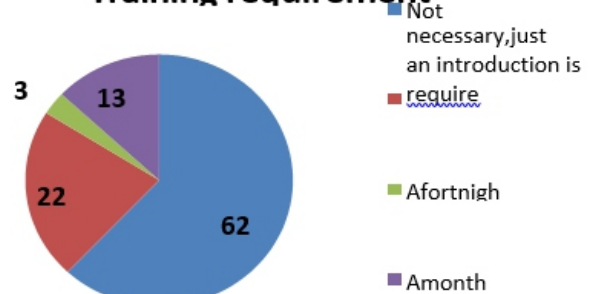
Fig 10: Training required for EMR

How often does each of the following occur where care is transfer red across clinicians (e.g. from a specialist to the primary care team)?

1. "All relevant medical information is available."

2. "The information transfer is timely, i.e. available when it is needed."

3. "All clinicians agree on the treatment goals and plans."

Table 11: Following Information transferred across clinicians

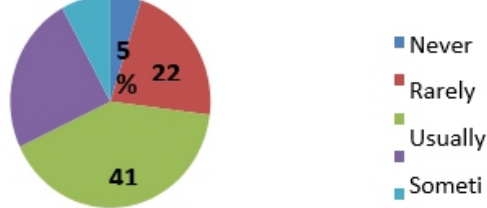| Category	Frequency	Percentage
Never	5	5%
Rarely	20	22%
Usually	38	41%
Sometimes	22	24%
Always	7	8%

Fig.11: Following Information transferred across clinicians

Do you believe the new EMR system will affect patient care and patient relation?

Table 12: New EMR system will affect patient care and patient relation

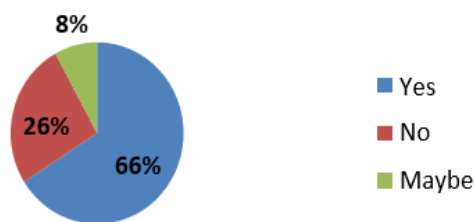| Category	Frequency	Percentage
Yes	61	66%
No	24	26%
Maybe	7	8%

Fig 12: New EMR system will affect patient care and patient relation

How patient participation will be beneficial to them?

Table 13: Patient participation will be beneficial

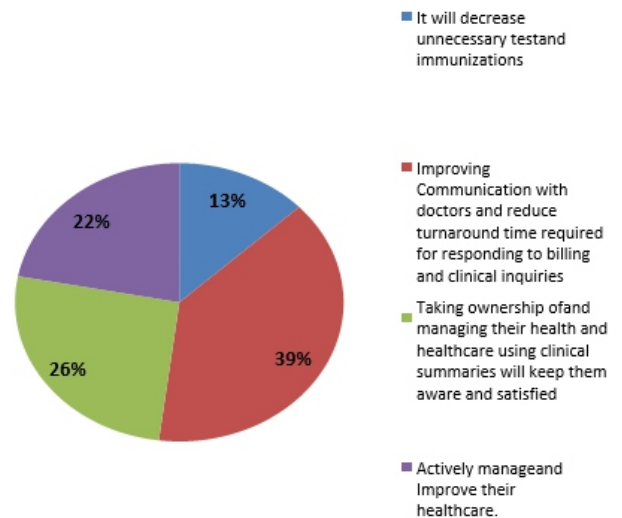| Category	Frequency	Percentage
It will decrease unnecessary test and immunizations	12	13%
Improving communication with doctors and reduce turnaround time required for responding to billing and clinical inquiries	36	39%
Taking ownership of and managing their health and healthcare using clinical summaries will keep them aware and satisfied	24	26%
Actively manage and improve their healthcare.	20	22%

Fig 13: Patient participation will be beneficial

Have you heard about patient portal?

Table 14: Heard about patient portal

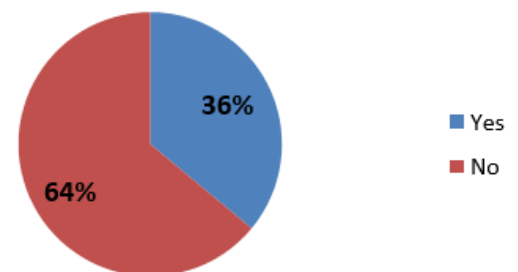| Category	Frequency	Percentage
Yes	33	36%
No	59	64%

Fig 14: Heard about patient portal

Should they implement EMR software?

Table 15: Patient portal implemented in EMR software

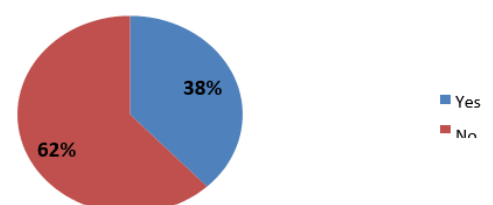| Category	Frequency	Percentage
Yes	35	38%
No	57	62%

Fig.15: Patient portal implemented in EMR software

Discussion:

- From the survey we analyzed that though consultants are using smart phones and computers on daily basis but still they are moderately friendly with technology.

- Amongst all the consultants, 70% of them are familiar with EMR software and most of them have used it before.

- According to most of the consultants, now is the right time to implement EMR as problems like paper work, maintenance and time consumption can be eliminated by EMR software which is beneficial for TCH.

- In this survey we found out that EMR provides advantages like tracking data, storage and accessibility but still most of them think that security and privacy is major concern & it should be addressed properly.

- Talking about features, most consultants want

1. Easy accessibility.
2. Report and image viewing
3. Generation and storage of relevant documents.
4. Transfer of prescription between consultant and pharmacy.

- From patient perspective, EMR is beneficial in data retrieval even after a long time and increase awareness about health and healthcare.

- Most of the consultants are not aware of patient portal but they think that it is important in viewing medication, scheduling appointments and updating contact information.

After analysis we conclude that EMR implementation will improve quality of care and reduce after hour calls in TCH with less investment of time in training doctors.

Analysis on the basis of tech-friendly nature:

1. Very easy:-
- Highly tech friendly
- Previously used
- Strong Requirement for department (e.g. diagnostic)

2. Easy:-
- For database, for research and case study
- Essential for exchange reports amongst doctors.
- Easy followup

3. Difficult:-
- Network connectivity issue
- It may be difficult to adapt to the older generation doctors.
- Security issue

4. Very difficult-
- Not personalized
- Not user friendly
- Poor and faulty software
- Require assistant for data entry.
- Older generation can't adapt it.

Table 16: Perception of Doctors

	Very easy	Easy	Difficult	Very Difficult
Surgical	15	13	4	2
Medicine	12	15	12	1
Physician	2	1	1	1
Dental	0	4	1	0
Diagnostic	4	3	1	1
TOTAL	33	36	19	5

Conclusion:

It is the first step towards a change, a change which is going to be beneficial for TCH in many ways. Majority of the doctors are comfortable with new technology and they are ready to adapt new technology as they understand it has more benefits than paper based. Main thing according to consultants are data transfer between radiology to consultant, pharmacy to consultant and laboratory to consultant. This feature is most useful for pathology lab. As there are different opinions from different doctors and there are differential diagnosis too. So coordination problem was major issue for pathology lab in this TCH will address by EMR. After analyzing doctor's perception about EMR and after receiving positive response from consultants it is right time to implement EMR technology in TCH.

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Annexure 1
Doctor's Perception of EMR

(Questionnaire used for data collection)

How technology friendly is you?
- Very much
- Comfortable
- Neutral
- Not comfortable
- Totally uncomfortable

Tick from the following electronic items, the ones which you have used with ease.
- Smart phone
- Tablet/pad
- Computer(desktop/laptop)
- Other(please specify)

Are you familiar of EMR software?
- Yes
- No

Have you ever used EMR software?
· Yes
· No

Do you think implementation of EMR in TCH will benefit the patients and save time?
- Yes
- No
- Can't say

Specify the problem you go through while using current method of patient documentation?
- Excess of paperwork
- Maintenance and storage of files and reports
· Time consuming
- Does not contain enough information about patient
- Difficult to retrieve data over a period of time Q-9 Select from the following, the advantage of EMR.
- Helps to track data over the time
- Cost saving
- Records accessible to many people at the same time
- Elimination of Medication errors
- Useful for storage and retrieval of data over a long period of time
- All of the above

Select from the given, the disadvantage of EMR.
- Time consuming
- Hard to understand
- Hard to accept the day to day activities
- I will go with Traditional way
- According to you what features should be there in EMR?
- User friendly
- Storage of Records along with diagnosis test and retrieve fast
- Interlinking of various hospital department and smoothing the flow
- Decrease the cycle time of patient in hospital to right from admission till the billing and discharge.

How much time do you think is required for training to be able to use EMR?
- A week
- A fortnight
- A month
- Not necessary, just an introduction is require

How often does each of the following occur where care is transferred across clinicians(e.g. from a specialist to the primary care team)?
1. All relevant medical information is available.
2. The information transfer is timely, i.e. available when it is needed.
3. All clinicians agree on the treatment goals and plans..

- Never
- Rarely
- Usually
- Sometimes
- Always

Do you believe the new EMR system will affect patient care and patient relation?
- Yes
- No

How patient participation will be beneficial to them?
- It will decrease unnecessary test and immunizations
- Improving communication with doctors and reduce turnaround time required for responding to billing and clinical inquiries
- Taking ownership of and managing their health and healthcare using clinical summaries will keep them aware and satisfied

- Actively manage and improve their healthcare. Q-16 Have you heard about patient portal?
- Yes
- No

Should they implemented in EMR software?
- Yes
- No